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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------|------------------|
| 09/891,886   | 06/26/2001  | Pingnan Shi          | 1504-0059               | 2419             |
| 7590   | 05/19/2005  |                      | EXAMINER                |                  |
| Harold C. Moore<br>Maginot, Addison & Moore<br>Bank One Center/Tower<br>111 Monument Circle, Suite 3000<br>Indianapolis, IN 46204-5115 |             |                      | LAYE, JADE O            |                  |
|  |             |                      | ART UNIT                | PAPER NUMBER     |
|  |             |                      | 2614                    |                  |
|  |             |                      | DATE MAILED: 05/19/2005 |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/891,886             | SHI ET AL.          |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Jade O. Laye           | 2614                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 June 2001.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-19 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 26 June 2001 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/26/01</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 6/26/01 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

### ***Drawings***

2. The drawings are objected to because Figure 1 is not descriptively labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

3. The disclosure is objected to because of the following informalities:
  - a. There appears to be a typo on page 20. Applicant refers to "...use interface..."  
The Examiner assumes Applicant refers to "...user interface...".  
Appropriate correction is required.

***Claim Objections***

4. Claims 5, 12, and 17 are objected to because of the following informalities:
  - a. In claim 5, the phrase "...second composite color standard..." lacks antecedent basis.
  - b. In claim 17, it is not clear whether the phrase "...Annex A, Annex B, Annex C." is claimed in the alternative ("or"). Applicant is required to point out and distinctly claim the scope of his or her claimed invention. Therefore, either "or" or "and" should be inserted.
  - c. Claim 12 refers to "...[t]he test meter of claim 12..." in the preamble. The Examiner assumes Applicant intended to refer to claim 10.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Emsley et al (US Pat. Pub. No. 2002/0019983).

As to claim 1, Emsley et al disclose a digital testing instrument comprising a signal input (i.e., front end operative to acquire signal), circuitry to apply European or American digital standards, and circuitry to apply many different types of digital demodulation. (Abstract & Pars. [0001-0004, 0006, 0008, 0020, 0022, 0024, & 0050]). The Examiner interprets “plurality of digital standards” as recited in claim 1, to refer to digital standards which specify bandwidths utilized in communications network. On page 10 of the Specification, Applicant states “the ITU-T J.83 digital standard provides or specifies bandwidth...for various locales.” Applicant then goes on to state “...annex A specifies a bandwidth of 7 or 8 MHz while Annex B specifies a bandwidth of 6 MHz.” Although Emsley does not specifically discuss ITU digital standards, they are inherently disclosed because Emsley teaches the system can filter signals with 6 or 8 MHz wide passbands. (Par. [0024]). This, of course, means Emsley’s system can apply signal conditioning according to the ITU’s Annex A or B standards. Accordingly, Emsley et al anticipate each and every limitation of claim 1.

As to claim 3, Emsley further teaches the system contains a multiple filters. (Par. [0024]). Accordingly, Emsley anticipates each and every limitation of claim 3.

As to claim 7, Emsley further teaches the system can apply any number of modulation techniques. (Par. [0050]). More specifically, the limitation of claim 7 is met because “...any

selected one of various digital demodulation decoding schemes..." can be broadly interpreted to refer to whatever modulation technique was incorporated (i.e., selected) into the system. Accordingly, Emsley anticipates each and every limitation of claim 7.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emsley et al in view of Liu et al. (US Pat. No. 6,222,891).

Claim 2 recites the test meter of claim 1, wherein the plurality of digital standards comprise ITU-T J.83 Annex A, Annex B, and Annex C and the various digital demodulation decoding schemes comprise QAM and QAM variants. As discussed above Emsley et al disclose all limitations of claim 1, and further teach the system is capable of filtering signals with passband widths of 6 MHz (i.e., Annex B) and 8 MHz (i.e., Annex A). (Par [0024]). Emsley

further teaches the digital demodulation technique can be any number of modulation techniques, including QAM protocols (i.e. QAM and QAM variants). (Par. [0050]). But, Emsley fails to specifically recite the remaining limitation of claim 2. However, within the same field of endeavor, Liu et al disclose a similar system which is capable of demodulating signals that have been transmitted according to a variety of protocols as defined by the ITU, which include Annex A, B, and C. (Col. 1, Ln. 34-67 thru Col. 2, Ln. 1-8). Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Emsley and Liu in order to provide a testing apparatus capable of receiving and demodulating signal information content that has been transmitted in accordance to ITU-T Annex A, B, and C standards.

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emsley et al.

Claim 4 recites the test meter of claim 3, wherein said first filter comprises a SAW filter operative to filter a first bandwidth according to a first digital standard, and said second filter comprises a SAW filter operative to filter a second bandwidth according to a second digital standard. As discussed above, Emsley discloses all limitations of claim 3, and further teaches the use of a SAW filter operative to filter a first signal having a passband of 6 MHz (i.e., Annex B) or 8 MHz (i.e., Annex A). (Par. [0024]) But, Emsley fails to specifically recite the use of two individually SAW filters used to perform the same functions. However, the choice of whether to use separate SAW filters to pass the 6 and 8 MHz signals would have been an obvious design choice. To further support this argument, Emsley goes on to state that the invention is "not

limited to the specifically identified components” and that other components capable of the same functions can be used. (Par. [0019]). Following this logic, claim 4’s limitation is an obvious variant of Emsley’s single SAW filter because Emsley’s single SAW filter performs the same function as Applicant’s two individual SAW filters. Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant’s invention to further modify the teaching of Emsley in order to provide a system capable of testing signals in a variety of cable networks.

Claim 5 recites the test meter of claim 4, wherein said first digital standard comprises ITU-T J.83 Annex A and said second composite color standard comprises ITU-T J.83 Annex B. As discussed above, the modified system of Emsley contains all limitations of claim 5, and further encompasses the limitations of claim 5 as well. The limitations of claim 5 are encompassed within the limitations of claim 4. Thus, it is analyzed and rejected as previously discussed.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emsley et al in view of Schmidt et al. (US Pat. No. 5,939,887).

Claim 6 recites the test meter of claim 5, further comprising a user interface operative to allow a user to select any one of the plurality of digital standards. As discussed above, the modified system of Emsley discloses all limitations of claim 5, further teaches the use of a display, keypad, and signature pad (i.e., user interface), but fails to specifically disclose the remaining limitations of claim 6. (Par. [0052, 0055, & 0056]). However, within the same field of endeavor, Schmidt discloses a similar system, which provides a control panel in which the operator can select a frequency span to be measured (i.e. tested). (Col. 5, Ln. 45-67 & Col. 6,

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Ln. 1-3). This frequency span, of course, could be broadly interpreted to encompass the passbands of Emsley's Annex A and B standards. Therefore, in essence, a user of Emsley's system could select a certain passband (i.e., digital standard) via an interface. Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the modified system of Emsley with the system of Schmidt in order to supply a control panel in which the user could select a specific passband, thereby providing a system useful in diagnostic testing/monitoring of various cable systems.

9. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emsley et al in view of Furuya. (US Pat. No. 5,577,087).

Claim 8 recites the test meter of claim 7, wherein said test meter further includes a user interface operative to allow a user to select any one of the various digital demodulation decoding schemes. As discussed above, Emsley discloses all limitations of claim 7, and further teaches the use of a display, keypad, and signature pad (i.e., user interface), but fails to specifically disclose the remaining limitations of claim 8. (Par. [0052, 0055, & 0056]). However, within the same field of endeavor, Furuya discloses a similar system which is capable of variably setting modulation schemes. (Col. 1, Ln. 23-42 & Col. 2, Ln. 7-35). Moreover, it is notoriously known in this art for telecommunications systems to apply multiple modulation schemes. Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Emsley and Furuya in order to supply a test meter interface which allows a user to choose demodulating schemes, thereby providing a testing meter which can be utilized in a wide variety of service areas.

Claim 9 recites the test meter of claim 8, wherein the various digital demodulation decoding schemes comprises QAM and QAM variants. As discussed above, the combined systems of Emsley and Furuya disclose all limitations of claim 8, and Emsley further discloses the use of any number of QAM schemes. (Par. [0050]). Moreover, Furuya further teaches the use of 16 QAM. (Col. 2, Ln. 55-59). Accordingly, the combined systems of Emsley and Furuya contain all limitations of claim 9.

10. Claims 10-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emsley in view of Schmidt, and further in view of Furuya.

As to claims 10-11, Emsley et al disclose a digital testing instrument comprising a signal input (i.e., front end operative to acquire signal), circuitry to apply European or American digital standards, and circuitry to apply many different types of digital demodulation. (Abstract & Pars. [0001-0004, 0006, 0008, 0020, 0022, 0024, & 0050]). The Examiner interprets “plurality of digital standards” as recited in claim 10, to refer to digital standards which specify bandwidths utilized in communications network. On page 10 of the Specification, Applicant states “the ITU-T J.83 digital standard provides or specifies bandwidth...for various locales.” Applicant then goes on to state “...annex A specifies a bandwidth of 7 or 8 MHz while Annex B specifies a bandwidth of 6 MHz.” Although Emsley does not specifically discuss ITU digital standards, they are inherently disclosed because Emsley teaches the system can filter signals with 6 or 8 MHz wide passbands. (Par. [0024]). This, of course, means Emsley’s system can apply signal conditioning according to the ITU’s Annex A or B standards.

As discussed above, Emsley discloses all limitations of claims 10-11, further teaches the use of a display, keypad, and signature pad (i.e., user interface), but fails to specifically disclose the remaining limitations of claims 10-11. (Par. [0052, 0055, & 0056]). However, within the same field of endeavor, Schmidt discloses a similar system, which provides a control panel in which the operator can select a frequency pan to be measured (i.e. tested). (Col. 5, Ln. 45-67 & Col. 6, Ln. 1-3). This frequency span, of course, could be broadly interpreted to encompass the passbands of Emsley's Annex A and B standards. Therefore, in essence, a user of Emsley's system could select a certain passband (i.e., digital standard) via an interface. Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the modified system of Emsley with the system of Schmidt in order to supply a control panel in which the user could select a specific passband, thereby providing a system useful in diagnostic testing/monitoring of various cable systems.

As discussed above, Emsley discloses all limitations of claims 10-11, and further teaches the use of a display, keypad, and signature pad (i.e., user interface), but fails to specifically disclose the remaining limitations of claims 10-11. (Par. [0052, 0055, & 0056]). However, within the same field of endeavor, Furuya discloses a similar system which is capable of variably setting modulation schemes. (Col. 1, Ln. 23-42 & Col. 2, Ln. 7-35). Moreover, it is notoriously known in this art for telecommunications systems to apply multiple modulation schemes. Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Emsley, Schmidt and Furuya in order to supply a test meter interface which allows a user to choose demodulating schemes, thereby providing a testing meter which can be utilized in a wide variety of service areas.

Claims 12-13 recite the test meter of claim 10, wherein said first filter comprises a SAW filter operative to filter a first bandwidth according to a first digital standard, and said second filter comprises a SAW filter operative to filter a second bandwidth according to a second digital standard. As discussed above, Emsley discloses all limitations of claim 10, and further teaches the use of a SAW filter operative to filter a first signal having a passband of 6 MHz (i.e., Annex B) or 8 MHz (i.e., Annex A). (Par. [0024]) But, Emsley fails to specifically recite the use of two individually SAW filters used to perform the same functions. However, the choice of whether to use separate SAW filters to pass the 6 and 8 MHz signals would have been an obvious design choice. To further support this argument, Emsley goes on to state that the invention is “not limited to the specifically identified components” and that other components capable of the same functions can be used. (Par. [0019]). Following this logic, claim 12-13’s limitation is an obvious variant of Emsley’s single SAW filter because Emsley’s single SAW filter performs the same function as Applicant’s two individual SAW filters. Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant’s invention to further modify the teaching of Emsley in order to provide a system capable of testing signals in a variety of cable networks.

Claim 14 recites the test meter of claim 13, wherein said first digital standard comprises ITU-T J.83 Annex A and said second composite color standard comprises ITU-T J.83 Annex B. As discussed above, the modified system of Emsley contains all limitations of claim 13, and further encompasses the limitations of claim 14 as well. The limitations of claim 14 are encompassed within the limitations of claim 13. Thus, it is analyzed and rejected as previously discussed.

Claim 15 recites the test meter of claim 10, wherein the plurality of digital standards comprise ITU-T J.83 Annex A, Annex B, and Annex C and the various digital demodulation decoding schemes comprise QAM and QAM variants. As discussed above Emsley et al disclose all limitations of claim 10, and further teach the system is capable of filtering signals with passband widths of 6 MHz (i.e., Annex B) and 8 MHz (i.e., Annex A). (Par [0024]). Emsley further teaches the digital demodulation technique can be any number of modulation techniques, including QAM protocols (i.e. QAM and QAM variants). (Par. [0050]).

Claims 16 and 19 recite a method of analyzing a digital signal carried by a digital signal distribution system, comprising limitations too numerous to recite herein (please refer to claim sheet). The limitations of claims 16 and 19 are encompassed within the limitations of claims 10-11. Therefore, in as far as they correlate, claims 16 and 19 are analyzed and rejected as discussed therein.

6. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emsley in view of Schmidt and Furuya, and further in view of Liu et al. (US Pat. No. 6,222,891).

Claims 17 and 18 recite the method of claim 16, wherein the multiple digital standards comprise ITU-T J.83 Annex A, Annex B, Annex C, and wherein the multiple demodulation schemes comprise QAM and QAM variants. As discussed above Emsley, Schmidt and Furuya disclose all limitations of claim 16, and further teach the system is capable of filtering signals with passband widths of 6 MHz (i.e., Annex B) and 8 MHz (i.e., Annex A). (Par [0024]). Emsley further teaches the digital demodulation technique can be any number of modulation techniques, including QAM protocols (i.e. QAM and QAM variants). (Par. [0050]). But,

Emsley, Schmidt and Furuya fail to specifically recite the remaining limitation of claims 17 and 18. However, within the same field of endeavor, Liu et al disclose a similar system which is capable of demodulating signals that have been transmitted according to a variety of protocols as defined by the ITU, which include Annex A, B, and C. (Col. 1, Ln. 34-67 thru Col. 2, Ln. 1-8). Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Emsley, Schmidt, Furuya and Liu in order to provide a testing apparatus capable of receiving and demodulating signal information content that has been transmitted in accordance to ITU-T Annex A, B, and C standards.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Miyaji et al (US Pat. No. 6,239,834) disclose an apparatus for evaluating digital picture quality.
- b. Judge (US Pat. No. 4,581,639) discloses a method and apparatus for monitoring transmission path.
- c. Chen et al (US Pat. No. 6,588,016) disclose a method for locating a fault in a cable system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jade O. Laye whose telephone number is (571) 272-7303. The examiner can normally be reached on Mon. 7:30am-4, Tues. 7:30-2, W-Fri. 7:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner's Initial's JL  
May 10, 2005.



JOHN MILLER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600